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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/633,553 | 08/05/2003 | Jae-Eun Jang | 030681-555 | 6734 |
| 21839 | 7590 | 08/24/2004 | EXAMINER | |
| BURNS DOANE SWECKER & MATHIS L L P | | | A, MINH D | |
| POST OFFICE BOX 1404 | | | ART UNIT | |
| ALEXANDRIA, VA 22313-1404 | | | PAPER NUMBER | |
| | | | 2821 | |

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/633,553

Applicant(s)

JANG ET AL.

Examiner

Minh D A

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>7/02/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being unpatentable by Jo et al (US 2003/0127988 A1).

Regarding claim 1, Jo discloses a field emission display comprising: a lower substrate (2), lower electrodes (6) arranged as stripes on the lower substrate (2); a field emitter array (12) including a plurality of emitters arranged at a predetermined interval on each of the lower electrodes (6); an upper substrate (4) which faces the lower substrate (2); upper electrodes (10) arranged as stripes on the upper substrate (4) to intersect the lower electrodes (6), and a phosphor array (18) including a plurality of phosphors arranged on the upper electrodes (10), each phosphor pair of different colors

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being aligned with a respective one of the emitters (12), wherein an upper electrode (10) aligned with each emitter (12) is comprised of first and second upper electrodes (10) connected to a respective phosphor pair of different colors. See figures 1-5, col.2, lines [002]-lines [003] to col.3, lines [0056]- lines [0057].

Regarding claim 2, Jo discloses wherein the emitters (10) comprise: an insulating layer is covering electrodes for arranging on a lower electrode such that a portion of the lower electrode (6) is exposed electron emitter tips formed on the exposed portion of the lower electrode (6); a gate electrode layer (insulating layer) formed on the gate dielectric layer. See figures 1-5.

Regarding claim 3, Jo discloses wherein the electron emitter tips (12) are metallic tips. See col.2, lines [002]-lines [003] to col.3, lines [0056]- lines [0057].

Regarding claim 4, Jo discloses wherein the electron emitter tips are formed of carbonaceous material. See figure abstract.

Regarding claim 5, Jo discloses wherein the phosphor array (18) includes a repeated pattern of a red phosphor, a green phosphor, and a blue phosphor. See figures 1-5.

Regarding claim 6, Jo discloses wherein two adjacent phosphors of different colors which are aligned with different emitters are connected to the first and second upper electrodes, respectively. See figures 1-5.

Regarding claim 7, Jo discloses wherein two adjacent phosphors of different colors which are aligned with different emitters are both connected to one of the first

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and second upper electrodes. See figures 1-5, col.2, lines [002]-lines [003] to col.3, lines [0056]- lines [0057].

Regarding claim 8, Jo discloses wherein the lower electrodes (6) are cathodes, and the upper electrodes (10) are anodes. See figures 1-5.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kishimo et al (US 6,100,637) and Uemura et al. (US 202/0003399 A1) are cited to show field emission display.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

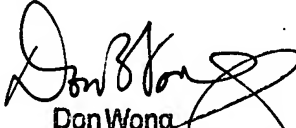
Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

Examiner

Minh A

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8/16/04


Don Wong
Supervisory Patent Examiner
Technology Center 2800